

Application No. 09/719,024
Amendment dated July 28, 2003
Reply to Office action of March 27, 2003
Docket Number 22727/04080

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the above-identified application:

Listing of Claims:

Claims 1 - 6, 10, 11, 14-16, 19, 21, 22 and 24 have been cancelled without prejudice or disclaimer.

C1 7. (currently amended) ~~An isolated, double domain recombinant AL2 gene~~ polynucleotide encoding a ~~modified mutant Begomovirus~~ transcription activator protein, wherein said recombinant polynucleotide is a modified open reading frame of a selected wild-type AL2 gene from a Begomovirus strain, and wherein said mutant Begomovirus transcription activator protein is a mutant form of a corresponding wild-type Begomovirus transcription activator protein expressed by the selected wild-type AL2 gene; said recombinant AL2 gene polynucleotide comprising a first mutation in the open reading frame region which encodes from about amino acid 83 to about amino acid 129 of said the wild-type transcription activator protein, and a second mutation in the open reading frame region which encodes from about amino acid 23 to about amino acid 43 of said the wild-type transcription activator protein, wherein each of said first and second mutations comprises addition to, deletion of, or replacement of one or more amino acids, or a combination thereof.

8. (currently amended) The recombinant AL2 gene polynucleotide of claim 7 wherein said first mutation is in the open reading frame region which encodes from ~~about~~ amino acid 115 to ~~about~~ amino acid 129 of said transcription activator protein.

9. (currently amended) The recombinant AL2 gene polynucleotide of claim 7 wherein said first mutation is a deletion and ~~said modified encoded mutant Begomovirus transcription activator protein encoded by said mutant gene~~ has from one to 20 fewer amino acids than the corresponding wild-type Begomovirus transcription activator protein.

12. (currently amended) The recombinant AL2 gene polynucleotide of claim 7 wherein said second mutation is a deletion and ~~said modified encoded mutant Begomovirus transcription activator protein encoded by said recombinant gene~~ has from one to 20 fewer amino acids than the corresponding wild-type Begomovirus transcription activator protein.

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13. (currently amended) The recombinant ~~AL2 gene~~ polynucleotide of claim 7 wherein said second mutation is a nucleotide substitution of ~~base pairs~~ and said isolated recombinant AL2 gene polynucleotide encodes a modified mutant Begomovirus transcription activator protein in which ~~a plurality~~ one or more of the cysteine residues located in the central region of the corresponding wild-type Begomovirus transcription activator protein are substituted.

17. (currently amended) A vector comprising the ~~mutant recombinant AL2 gene~~ polynucleotide of claim 7.

18. The vector of claim 17 wherein said vector is an Agrobacterium.

20. (currently amended) A transgenic plant comprising the ~~double domain recombinant AL2 gene~~ polynucleotide of claim 7

23. (currently amended) A method of preparing a transgenic plant, comprising

(a) providing a sample from a plant which is a host for a Begomovirus;

(b) transforming said sample with a vector comprising ~~a double domain~~ the recombinant AL2 gene polynucleotide of claim 7; and

generating a plant from said transformed sample of step (b).

24. (new) The recombinant polynucleotide of claim 7, wherein the selected wild-type AL2 gene encodes a protein comprising an acidic domain at amino and a cysteine-histidine domain, and wherein said first mutation is a deletion in the acidic domain and said mutant Begomovirus transcription activator protein has from one to 20 fewer amino acids than the corresponding wild-type Begomovirus transcription activator protein; and wherein said second mutation is a nucleotide substitution and said isolated recombinant polynucleotide encodes a mutant Begomovirus transcription activator protein in which one or more of the cysteine residues located in the cysteine-histidine domain of the corresponding wild-type Begomovirus transcription activator protein are substituted.

25. (new) The recombinant polynucleotide of claim 7, wherein the selected wild-type AL2 gene encodes a protein comprising an acidic domain at amino and a cysteine-histidine domain, and wherein said first mutation is a nucleotide substitution and said isolated recombinant

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polynucleotide encodes a mutant Begomovirus transcription activator protein in which one or more of the hydrophobic or acidic residues located in the acidic domain of the corresponding wild-type Begomovirus transcription activator protein are substituted; and wherein said second mutation is a deletion in the cysteine-histidine domain and said mutant Begomovirus transcription activator protein has from one to 20 fewer amino acids than the corresponding wild-type Begomovirus transcription activator protein.

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26. (new) The recombinant polynucleotide of claim 7 wherein said first and second mutations are deletions and wherein the encoded mutant Begomovirus transcription activator protein has from one to 40 fewer amino acids than the corresponding wild-type Begomovirus transcription activator protein.

27. (new) The recombinant polynucleotide of claim 7, wherein said first and second mutations are nucleotide substitutions which encode a mutant Begomovirus transcription activator protein in which one or more of the histidine or cysteine residues located in the cysteine-histidine domain and one of the hydrophobic or acidic residues located in the acidic domain of the corresponding wild-type Begomovirus transcription activator protein are substituted.
